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Response to Office Action dated October 17, 2006

REMARKS

Reconsideration and allowance of the subject patent application are respectfully requested.

As requested, Figure 14 has been amended so that numeral 40 references the depicted monitor.

Claims 6 and 7 were rejected under 35 U.S.C. Section 112, first paragraph, as allegedly containing non-enabled subject matter. While not acquiescing in this rejection, claim 6 has been canceled without prejudice or disclaimer and the reference to "product" in claim 7 has been deleted.

Claims 6 and 7 were rejected under 35 U.S.C. Section 101 as allegedly being directed to non-statutory subject matter. While not acquiescing in this rejection, claim 6 has been canceled without prejudice or disclaimer and claim 7 has been amended to describe that the claimed computer program is embodied on a computer readable medium.

The specification has been amended to address the objection on page 4 of the office action.

While not acquiescing in the rejections, claims 1, 3, 4 and 6 have been canceled without prejudice or disclaimer.

Claims 2 and 5 were rejected under 35 U.S.C. Section 103(a) as allegedly being made "obvious" by Helkey et al. (U.S. Patent No. 6,469,649) in view of Sakura et al. (U.S. Patent Publication No. 2001/0043093) and McCarty (U.S. Patent No. 6,628,728). Claim 7 was rejected under 35 U.S.C. Section 103(a) as allegedly being made "obvious" by the proposed Helkey et al.-Sakura et al.-McCarty combination, in further view of Kleiner (U.S. Patent No. 6,847,997).

Each of claims 2, 5 and 7 calls for modulation to be executed to satisfy $fd > f1$, $fu < f2$, and $fc > 3 (1 + \alpha) fsr / 2$, where $f1$ is a lower limit frequency of a user-permitted frequency band, $f2$ is an upper limit of the use-permitted frequency band, fc is a carrier frequency, α is a roll-off factor, and fsr is a symbol rate of the modulation signal. As described in the subject patent application with reference to non-limiting example embodiments:

> This formula provides a method of choosing the carrier frequency fc in modulation-demodulation by utilizing the optical device. Namely, if the carrier frequency fc is determined in order to satisfy the conditional formula, the secondary distortion does not take place because the cross modulated wave does not enter the use frequency band even though the optical device having non-linearity is utilized. Therefore, the data communication in a multi-value modulating system, in which the information can also be carried by the amplitude,

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is possible with the optical device having non-linearity. High-speed data transmission is also possible in the multi-value modulating system. Further, if the LED is utilized as the optical device, a lower cost can be realized. Page 10, lines 17-29.

The applied references, taken alone or in combination, are at least deficient with respect to choosing a carrier frequency in accordance with this equation. Specifically, none of the applied references disclose this formula. Page 8 of the office action suggests with reference to McCarty and Helkey et al. that the carrier frequency condition can be "easily obtained". However, Helkey et al. does not disclose or suggest the use of a Nyquist filter, and thus an equation involving a rolloff factor would not have been applied in the Helkey et al. arrangement. Consequently, there would have been no motivation to combine the references as proposed in the office action. Sakura et al. is cited for its disclosure of an LED and Kleiner is cited for its disclosure of a computer or computer program to control transmitter parameters. These references add nothing to Helkey et al. and McCarty with respect to the carrier frequency.

For at least these reasons, claims 2, 5 and 7 are believed to patentably distinguish over the applied references.

The pending claims are believed to be allowable and favorable office action is respectfully requested.

Respectfully submitted,

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FIG. 14